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| EXAMINER |
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MULLER, BRYAN R

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| ART UNIT | PAPER NUMBER |
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3723

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/533,108

Applicant(s)

WEILAND, JOSEF

Examiner

Bryan R. Muller

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2007.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 39-46 and 48-77 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 39-46, 48-61, 63, 64 and 71-77 is/are rejected.
7) ☐ Claim(s) 62 and 65-70 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 28 April 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 2/13/2007.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

1. The information disclosure statement (IDS) submitted on 2/13/2007 has been considered by the examiner. However, for better understanding of the foreign NPL documents, the examiner requests a certified translation of both of the Ingromat references cited in the IDS as Non Patent Literature Documents.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the embodiment of the apparatus wherein the conveyor guides the brush past the region of the work piece that is to be machined **obliquely** with respect to a direction of advance of the work piece (claims 39, 45, 46, 76 and 77) and the wavy and twisted bristle profile (claim 51) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

3. The applicant's replacement sheet filed on 1/3/2007, providing new figures 4A and 8A in an attempt to correct the above objection, is considered to raise issues of new matter and has not been entered in the application. The drawings show specific features which are not supported by the original disclosure such as the specific angle that the support is located obliquely to the conveyor devices and the angles and number of waves or twists in the bristles on the brush. Thus, all of the claimed limitations are still not supported by the drawings. It is suggested by the examiner that the limitations of

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the workpiece being treated obliquely with respect to an advance direction of the workpiece and the bristles being at least one of wavy and twisted be removed from the claims.

4. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

5. Claim 75 is objected to because of the following informalities: the word "and" should be added before the word "the" in line 5 of claim 75. Appropriate correction is required.

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6. Claim 76 is objected to because of the following informalities: the word "side" in line 12 of claim 76 should be changed to "surface". Appropriate correction is required.

7. Claim 77 is objected to because of the following informalities: the word "on" should be added between the words "positioned" and "one" in line 11 of claim 77.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 45 and 41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear if the limitation in claim 45 that "the first and second conveyor devices rotate in opposite directions and both are positioned for treating one of the first and the second main surfaces of the workpiece" is attempting to claim that both of the conveyor devices are positioned to treat the same main surface of the workpiece, either being the first or second main surface or if the limitation is attempting to claim that either of the conveyor devices are positioned to treat either of the first or second main surfaces of the workpiece separately, in which case the conveyors may treat opposite sides of the workpiece. As claimed, the examiner's best understanding of the limitation is that the first and second conveyors are both positioned to treat the same main surface of the workpiece, being either the first or second main surface. However, in this case the limitation of claim 41, which depends from claim 45,

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that the workpiece is guided between the first and second conveyor devices would contradict the limitation of claim 45 that the conveyor devices treating the same main surface of the workpiece. Thus, it is assumed that the applicant is intending to claim that the conveyor devices may treat opposite sides, in which case the examiner suggests that the applicant change the limitation in claim 45 from "the first and second conveyor devices rotate in opposite directions and both are positioned for treating one of the first and the second main surfaces of the workpiece" to "the first and second conveyor devices rotate in opposite directions and ~~both are~~ each individually positioned for treating one of the first and the second main surfaces of the workpiece" in order to clarify the claim to correspond with the disclosure of claim 41.

10. Claim 50 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim limitation that "the first and second conveyor devices are displaced or adjusted with respect to one another to correct for wear of the at least one brush" appears to be a method step. However, the claim is an apparatus claim, thus it is unclear if the applicant is intending to claim a method of using the apparatus or to somehow provide a structural limitation through a method step. It is suggested that the applicant amend the claim to remove the method step limitation and provide structural limitations that are disclosed as making the method step capable with the apparatus being claimed.

11. Claim 76 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant

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regards as the invention. The limitation that discloses the step of "ensuring contact between the first, second, third and fourth conveyor devices and the brush" is unclear. It is disclosed previously in the claim that each of the first, second, third and fourth conveyor devices have at least one brush. Therefore it is unclear which brush the above limitation is referring to and how all four of the conveyor devices may be in contact with the same brush. For the sake of the current office action, it is assumed by the examiner, as best understood, that the applicant is intending to claim the step of ensuring that each of the first, second, third and fourth conveyor devices is in contact with each of their respective at least one brushes.

Claim Rejections - 35 USC § 102/103

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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14. Claims 41, 42, 45, 46, 50, 76 and 77 are rejected under 35 U.S.C. 102(b) as anticipated by The Ingromat-Cleaner CH 29 publication (to be referred to hereinafter as Ingromat) or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ingromat in view of Herrington (2,767,413).

15. In reference to claim 45 and 46, the Ingromat reference discloses an apparatus for machining a workpiece being one of strip or plate form having first and second main surfaces for removing material from at least one of the first and second main surfaces of the workpiece wherein the apparatus comprises at least first and second conveyor devices and each of the first and second conveyor devices has at least one brush, each of the at least first and second conveyor devices guides the respective at least one brush at least approximately linearly past a region of the workpiece to be treated transversely with respect to an advance direction of the workpiece, the first and second conveyor devices rotate in opposite directions and the first conveyor device is positioned for treating the first main surface of the workpiece while the second conveyor device is positioned for treating the second main surface of the workpiece and the first and second conveyor devices are arranged slightly offset with respect to one another in the advance direction in which the workpiece passes through. However, the Ingromat reference fails to disclose that the apparatus is used to remove an oxide layer from a surface of the workpiece. It may be inherent that the brushes and conveyor devices, as disclosed in the Ingromat reference may be capable of removing at least a portion of an oxide layer from a surface of a workpiece over a given amount of time. In the alternative, Harrington discloses a similar apparatus that is disclosed as being used to

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remove scale, which is well known in the art as being an oxide layer, from metallic surfaces and comprises multiple rotary brushes that engage a first main surface of a workpiece that is in strip or plate form. Herrington further discloses specific bristle material for the brushes that is capable of removing the oxide layer. Herrington however only removes the oxide layer from one main surface of the workpiece at a time and due to the round shape of the brushes may only remove the oxide layer from a limited width on the main surface of the workpiece. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the brushes of the Ingromat apparatus with the bristles disclosed by Herrington to allow the Ingromat apparatus to remove oxide layers from a large area of both the first and second main surfaces of a workpiece at the same time in order to provide a much more efficient and effective apparatus for removing oxide layers from metallic workpieces that may be used on much larger workpieces than the apparatus of Herrington.

16. In reference to claim 41, the Ingromat reference further discloses that the workpiece is guided between the first and the second conveyor devices such that each of the first and second conveyor devices machines one of the first and second main surfaces of the workpiece.

17. In reference to claim 42, the Ingromat reference further discloses that the direction of rotation of the first and second conveyor devices is selected such that the brushes of the first and second conveyor devices are guided past the opposed first and second main surfaces of the workpiece in a same direction.

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18. In reference to claim 50, the Ingromat reference further discloses that the distance between the first and second conveyor devices may be adjusted which makes the apparatus inherently capable of displacing or adjusting the first and second conveyor devices with respect to one another to correct for wear of the at least one brush.

19. In reference to claim 76, the Ingromat reference discloses the apparatus, as discussed supra and further discloses third and fourth conveyor devices, each having at least one brush wherein a method for machining a metallic workpiece to remove an oxide layer from a surface thereof will inherently comprise the steps of operating the first, second, third and fourth conveyor devices such that at least one brush runs at least approximately linearly in a region corresponding to the dimensions of the workpiece, guiding the workpiece past the first, second third and fourth conveyor devices transversely with respect to a direction of rotation of the conveyor devices, the first and third conveyor devices rotating in opposite directions and machining the first surface of the workpiece and the second and fourth conveyors rotating in opposite directions and machining the second surface of the workpiece and ensuring contact between the first, second, third and fourth conveyor devices and each of their respective brushes.

20. In reference to claim 77, the Ingromat reference or alternatively the Ingromat reference in view of Herrington, as discussed supra discloses an apparatus comprising at least first and second conveyor devices each having at least one brush, each of the first and second conveyor devices guides the respective at least one brush approximately linearly past the workpiece to be treated transversely with respect to an

advance direction of the workpiece, the first and second conveyor devices rotate in opposite directions to one another and are both positioned on one side of the apparatus for treating only one of the first and second main surfaces of the workpiece.

Claim Rejections - 35 USC § 103

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

22. Claims 39, 40, 43, 44, 48, 49, 53, 56-61, 63, 64 and 71-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Ingromat reference or alternatively the Ingromat reference in view of Herrington, as discussed supra, and further in view of either McCormick et al. (2,958,882) or Derby (559,166).

23. In reference to claim 39, the Ingromat reference discloses the apparatus wherein it the brushes disclosed may be capable of removing an oxide layer or alternatively it would have been obvious to replace the brush bristles of the Ingromat reference with the brush bristles disclosed by Herrington to allow the Ingromat apparatus to remove oxide layers from workpieces, as discussed supra. However, the Ingromat reference fails to disclose a base plate or a delimiting plate in the apparatus. It clearly would have been obvious that the Ingromat apparatus may be oriented vertically if desired to treat a workpiece that is in an upright position. In this case, the conveyor devices and advance

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direction of the workpiece will all be relatively situated in the same orientation as the apparatus disclosed by McCormick. McCormick further discloses a base plate in the form of a tabletop that is necessary to support the workpieces during treatment by the conveyor devices. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made that in order to use the Ingromat apparatus to treat a workpiece in a vertical orientation, the Ingromat apparatus would require a base plate to support the workpiece wherein the first and fourth conveyor devices will be rotating so as to guide the brushes toward the base plate. Alternatively, in the orientation of the Ingromat apparatus as disclosed, the workpiece is fed relative to the conveyor devices in a similar manner as the workpieces as disclosed by Derby wherein Derby further discloses clamping blocks (d⁶), which may also be considered to be delimiting plates, located on either side of the workpiece to prevent the workpiece from being pushed out of position by the motion of the conveyor devices having treating parts thereon. Therefore, it further would have been obvious to provide the Ingromat apparatus with similar clamping blocks or delimiting plates to maintain the workpiece in a desired position during treatment, as taught by Derby. In this case the first and fourth conveyor devices will be rotating so as to guide the brushes toward at least one of the delimiting plates.

24. In reference to claim 40, the Ingromat reference further discloses that the conveyor devices are positioned in a lying position such that the at least one brush on each of the first, second, third and fourth conveyor devices runs substantially horizontally along the workpiece in a lying position.

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25. In reference to claim 43, it would further be obvious that when the Ingromat is positioned in the standing position, as discussed supra, the direction of the first and second conveyor devices is selected such that the at least one brush of the at least first and second conveyor devices is guided past the workpiece in one of the direction of a base plate or from a top of the apparatus downward.

26. In reference to claim 44, as discussed supra, the direction of rotation of the first and second conveyor devices arranged in the lying position is selected such that the at least one brush of the first and second conveyor devices is guided along the workpiece will be guided along the workpiece in the direction of at least one of the clamping or delimiting plates at one end side.

27. In reference to claim 48, the Ingromat reference further discloses that each of the conveyor devices has a plurality of brushes.

28. In reference to claim 49, the Ingromat reference further discloses a guide passage between the upper and lower sections which may be set to a thickness of the workpiece by which the workpiece may be displaced with guidance transversely with respect to the direction of rotation of the at least one of the conveyor devices.

29. In reference to claim 53, both the Ingromat reference and Herrington disclose that the bristles of each brush fan out away from the support, thus causing a variety of angles formed between the bristles and the support, thus disclosing that at least some of the bristles are inclined by up to 45° in the direction of rotation.

30. In reference to claim 56, page 33 of the Ingromat reference shows the brush bristles to be formed as part of a belt of the conveyor device, thus it would have been

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obvious to one of ordinary skill in the art that the bristles may be coupled to the respective conveyor device by a bond to form a strong connection between the brushes and the conveyor devices.

31. In reference to claim 57, the Ingromat reference fails to disclose a specific rotational speed for the brush, but it would be obvious that different speeds would be desired for different work pieces under different circumstances and it would further be found obvious through routine experimentation, depending on the desired work piece, to rotate the brushes at a speed within 5-30m/s.

32. In reference to claim 58, the Ingromat reference further discloses that each of the conveyor devices has an independent drive.

33. In reference to claim 59, the Ingromat reference further discloses that each of the conveyor devices may be a V-belt as shown on page 33.

34. In reference to claim 60, the Ingromat reference further discloses that the conveyor devices may have different widths and it would further be obvious when the conveyor device has larger widths to make the conveyor device in the form of a double or triple V-belt to accommodate the extra width and brushes required without increasing the thickness of the belt. It would further be obvious that in the case of a triple V-belt, at the middle V-belt would accommodate at least some of the brushes.

35. In reference to claim 61, it would further be obvious to form the V-belt, as disclosed by the Ingromat reference, out of rubber because it is old and well known in the art to form V-belts out of rubber material.

36. In reference to claim 63, as discussed supra, it would have been obvious to form the V-belt out of rubber and to attach the brushes or the bristles to the V-belt by a bond.

37. In reference to claim 64, it would further be obvious that at least the top portion of the V-belt may be considered to be the carrier because the top portion carries the brushes and that the middle portion of the V-belt may also be considered to be an elevation on the top of the V-belt for guiding and supporting the carrier.

38. In reference to claim 71, the Ingromat reference further discloses a resistance element (first shown on the bottom of page 17 and more clearly shown as numbers 36 and 37 on page 31) that is located downstream from a diversion point of the conveyor device, as seen in the direction of rotation, before one of the brush or bristles resumes contact with the workpiece.

39. In reference to claim 72, the Ingromat reference further discloses that the resistance element is located in a region in which the brush or bristles leave the circular path produced by the diversion point of the conveyor device and returns to a linear or rectilinear movement.

40. In reference to claim 73, the Ingromat reference further discloses that the resistance element mechanically prevents the bristles from yielding in the direction of rotation.

41. In reference to claim 74, the Ingromat reference further discloses that the resistance element is introduced into a path of the brush or bristles such that tips of the bristles butt against the resistance element.

42. In reference to claim 75, as discussed supra, it is obvious that each of the conveyor devices is a V-belt having bristles coupled onto a top side thereof by a bond either directly or via a carrier and at least some of the bristles are inclined by up to 45° in the direction of rotation of the V-belt.

43. Claims 51, 52, 54 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Ingromat reference in view of Herrington, as discussed supra, and further in view of either McCormick et al. (2,958,882) or Derby (559,166).

44. In reference to claim 51, when using the bristles disclosed by Herrington in place of the bristles of the Ingromat reference, as discussed supra, it is clearly disclosed by Herrington that the bristles are wavy and/or twisted, as seen in figure 5.

45. In reference to claim 52, when using the bristles disclosed by Herrington in place of the bristles of the Ingromat reference, as discussed supra, it would further be obvious that the bristles must be at least somewhat abrasive to remove an oxide layer from metal.

46. In reference to claim 54, the bristles disclosed by the Ingromat reference and by Herrington are bunched together, thus it would be inherent that the bristles act to support one another making each of the brushes provided with supporting and stabilizing bristles.

47. In reference to claim 55, the base of the bristles disclosed by the Ingromat reference and by Herrington are both surrounded by some portion of the support

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wherein the surrounding portion may be considered to be a stabilizing and supporting sheath.

Allowable Subject Matter

48. Claims 62 and 65-70 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

49. Applicant's arguments with respect to all of the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

50. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Peterson (2,989,764), Fenton (2,158,694), Shimogori et al (4,406,761), Thym et al (3,983,889), Bogese (3,720,973), Seufert (582,509), Lisec (5,237,716), Armstrong (3,885,356), Paddock (2,312,186), Weber et al (2005/0005374), Rajala et al (2003/0140942), Johnson et al (5,679,067) and Hutchinson et al (5,634,397) all disclose apparatuses having at least some similar structure to the applicant's claimed invention.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan R. Muller whose telephone number is (571) 272-4489. The examiner can normally be reached on Monday thru Thursday and second Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph J. Hail III can be reached on (571) 272-4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BRM *BRM*
3/26/2007



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